What Is Claimed Is:

1. A perceptual speech processor comprising a noise masker for simulating the masking effect of a noise tone, said noise masker comprising:

a masking winner-take-all circuit including

a plurality of transistor pairs each pair being coupled to a current source and coupled in parallel to a bus;

a plurality of piecewise linear resistors, each corresponding to one of said plurality of transistor pairs, and coupled in series to said bus; and

a plurality of diode-coupled transistors, each coupled to a corresponding one of said plurality of paired transistors and coupled to said bus.

2. The perceptual speech processor of claim 1 wherein said plurality of piecewise linear resistors changes resistance responsive to a change in sign of voltage drop.

3. The perceptual speech processor of claim 1 wherein said plurality of piecewise linear resistors has a leftward to rightward current flow resistance in the range of 50-100.

4. A perceptual speech processor comprising a magnitude renormalizer for translating objective signal magnitude to a subjective loudness minimum audible field over the speech frequency domain.

5. A perceptual speech processor comprising a mel-scale frequency adjuster for adjusting the physical Hertz frequency of a signal to the perceptual mel-scale frequency of the same signal.

6. A perceptual speech processor comprising:

a noise masker for simulating the effect of a noise tone;

a magnitude renormalizer, coupled to said noise masker, for translating objective signal magnitude to a subjective loudness minimum audible field over the speech frequency domain; and

a mel-scale frequency translator, coupled to said magnitude renormalizer, for translating the physical Hertz frequency of a signal to the perceptual mel-scale frequency of the same signal, thereby generating a perceptual spectrum.

7. A method for recognizing a Fourier spectrum speech input signal comprising the steps of:

(a) removing the frequency components of the signal masked by louder neighboring components;

(b) renormalizing the magnitude of each frequency component of the signal according to a minimum amplitude field (MAF) curve; and

(c) translating each frequency component of the signal to mel-scale by resampling.

8. The method of claim 7 wherein step (a) comprises the steps of electronically simulating the masker to determine the masked frequencies to be removed.

9. The method of claim 8 wherein said electronic simulation utilizes a masking winner-take-all circuit having a plurality of piecewise linear resistors for modeling an asymmetric mask.

10. The method of claim 7 wherein step (b) comprises the step of renormalizing the magnitude of each frequency according to all of a plurality of equal loudness curves.

11. The method of claim 7 wherein step (c) comprises the step of calculating the mel-scale utilizing $mel = 2595 \times \log(1+f/700)$ where f is the frequency.